

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: LOUGEE POND	Lake Area (ha):	16.92
Town: BARNSTEAD	Maximum depth (m):	13.1
County: Belknap	Mean depth (m):	7.3
River Basin: Merrimack	Volume (m <sup>3</sup> ):	1234000
Latitude: 43°22' N	Relative depth:	2.8
Longitude: 71°19' W	Shore configuration:	1.23
Elevation (ft): 719	Areal water load (m/yr):	9.27
Shore length (m): 1800	Flushing rate (yr <sup>-1</sup> ):	1.30
Watershed area (ha): 362.6	P retention coeff.:	0.56
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

	6 February 1987	11 July 1986
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 90%	ASTERIONELLA 40%
#2		DINOBRYON 20%
#3		CHRYOSOPHAERELLA 20%
PHYTOPLANKTON ABUNDANCE (cells/mL)		340.0
CHLOROPHYLL-A (µg/L)		6.36
DOM. ZOOPLANKTON (% TOTAL) #1	KELICOTTIA 30%	NAUPLIUS LARVAE 41%
#2	CYCLOPOID COPEPOD 26%	KERATELLA 27%
#3	KERATELLA 22%	
ROTIFERS/LITER	26	35
MICROCRUSTACEA/LITER	24	72
ZOOPLANKTON ABUNDANCE (#/L)	50	113
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		4.3
BOTTOM DISSOLVED OXYGEN (mg/L)	5.9	0.2
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		10
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 3.5  
Hypolimnion volume (m<sup>3</sup>): 423000

CHEMICAL:

Lake: LOUGEE POND  
Town: BARNSTEAD

	6 February 1987		11 July 1986		
DEPTH (m)	4.0	8.0	1.0	5.0	10.0
pH (units)	6.2	6.2	6.7	6.2	6.2
A.N.C. (Alkalinity)	4.2	4.4	3.2	3.2	6.1
NITRATE & NITRITE NITROGEN	0.05	0.05	< 0.25		< 0.25
TOTAL KJELDAHL NITROGEN	0.25	0.60	0.85	0.95	0.65
TOTAL PHOSPHORUS	0.011	0.017	0.011	0.014	0.027
CONDUCTIVITY ( $\mu$ mhos/cm)	28.4	28.6	25.1	26.2	32.0
APPARENT COLOR (cpu)	34	33	40	40	45
MAGNESIUM			0.52		
CALCIUM			1.4		
SODIUM			2.0		
POTASSIUM			0.40		
CHLORIDE	< 2	< 2	12		13
SULFATE	4	4			
TN : TP	27	38	77		24
CALCITE SATURATION INDEX			3.9		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1986

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
6	1	2	1	10	Meso.

COMMENTS:

1. Previously called Skunk Pond.

2. A very strong thermal stratification was present in the summer - a drop of 12.3°C in 3 meters.

3. The whole-water phytoplankton were dominated by greens (55%). Tiny green flagellates were the dominant genera (30%).

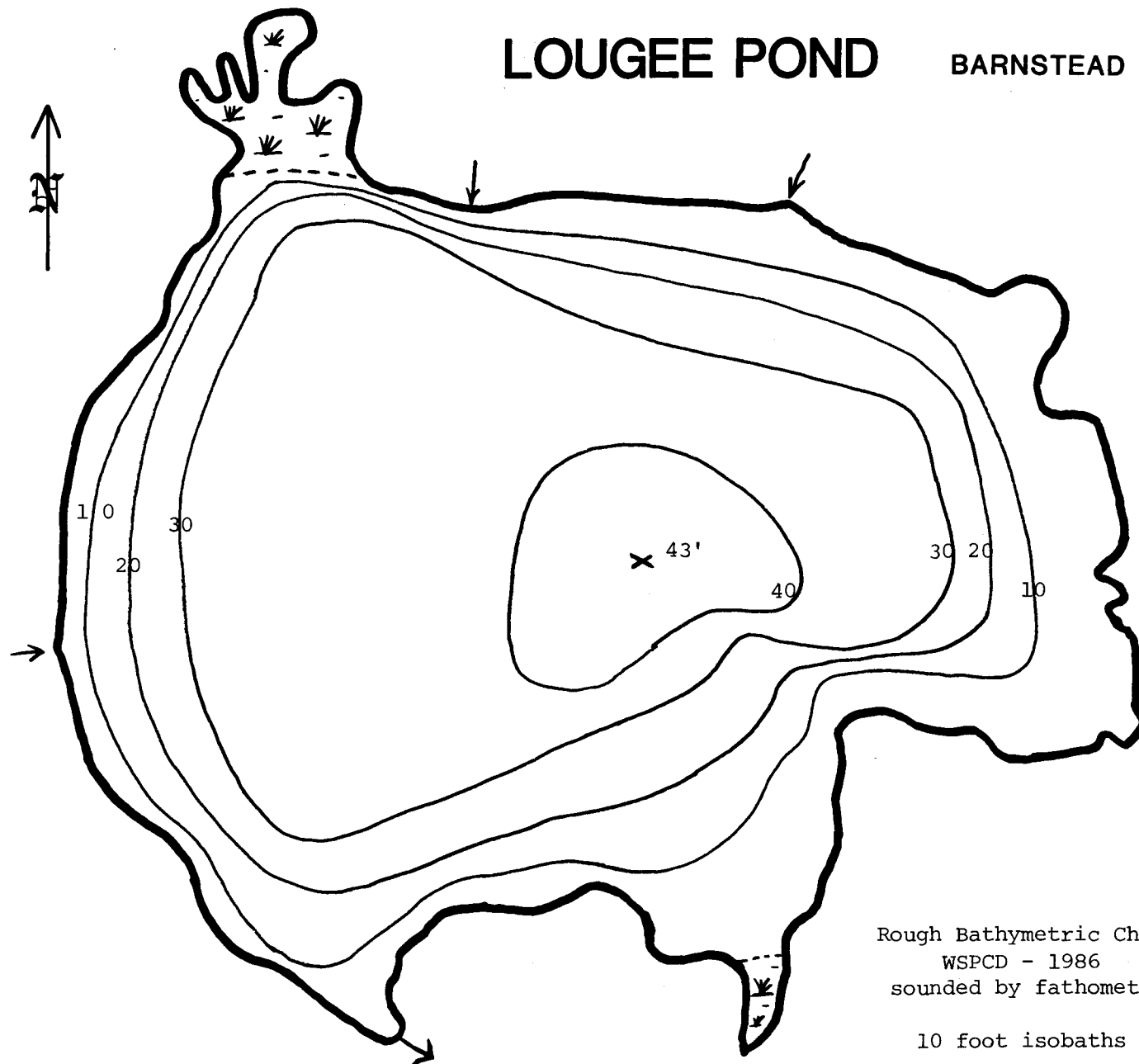
4. Adequate boat access; asphalt ramp with 30% grade; parking for 4 to 5 cars.

5. Motors were not allowed on the pond.

6. No cottages were located along the shoreline.

# LOUGEE POND

BARNSTEAD



Rough Bathymetric Chart  
WSPCD - 1986  
sounded by fathometer

10 foot isobaths

0 0.2 KM

FIELD DATA SHEET				
LAKE: LOUGEE POND DATE: 07/11/86		TOWN: BARNSTEAD WEATHER: CLEAR AND WINDY		
	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	21.9	8.3	92 %
	1.0	21.9	8.3	92 %
	2.0	21.8	8.2	91 %
	3.0	17.9	7.1	73 %
	4.0	13.6	9.2	86 %
	5.0	9.5	7.9	67 %
	6.0	7.5	2.8	23 %
	7.0	6.1	0.0	0 %
	8.0	5.8	0.0	0 %
	9.0	5.5	0.0	0 %
	10.0	5.3	0.0	0 %
	11.0	5.3	0.0	0 %
	12.0	5.3	0.5	4 %
	13.0	5.3	0.2	2 %

SECCHI DISK (m):    4.3                      COMMENTS:

BOTTOM DEPTH (m):   13.2

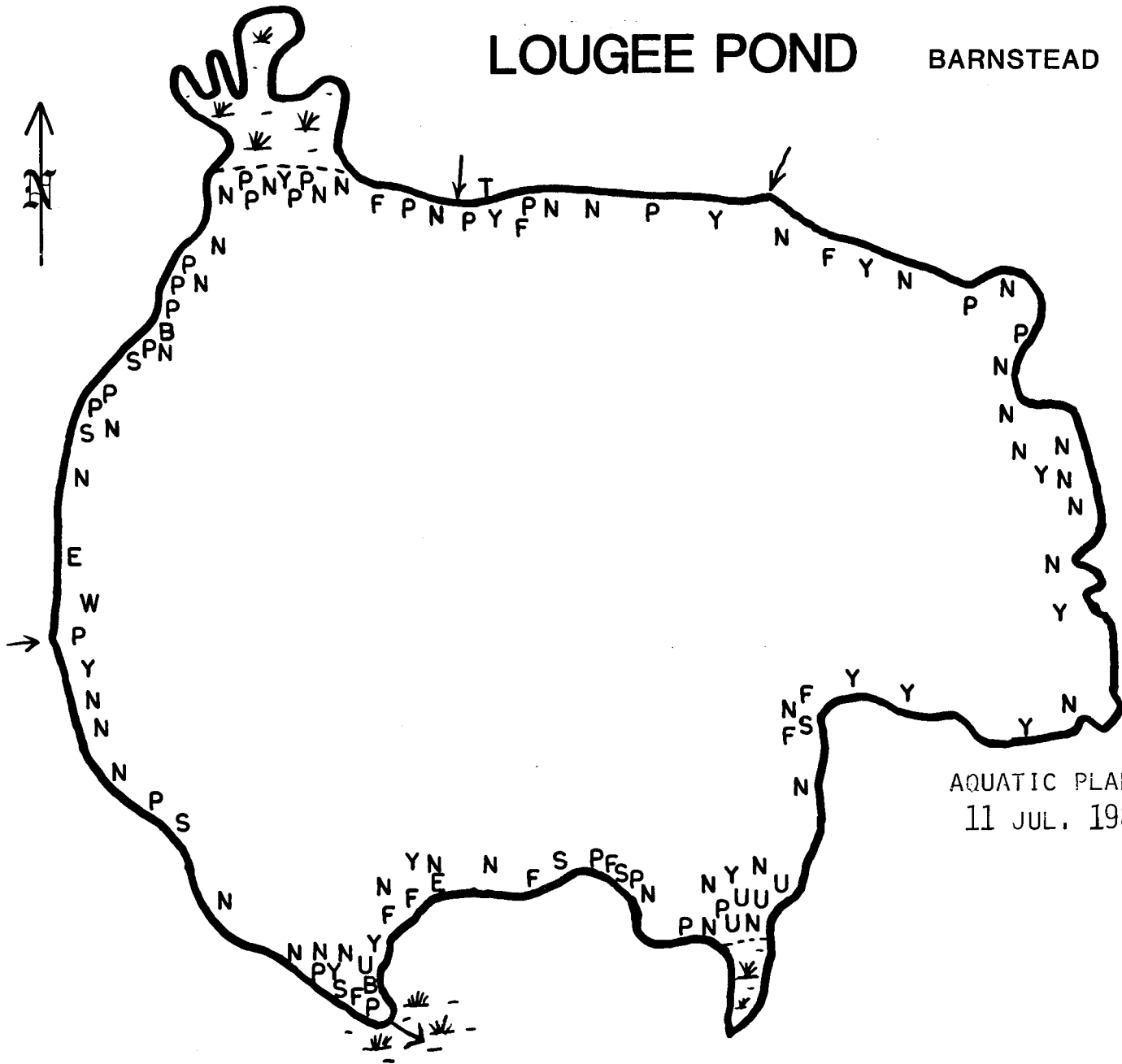
TIME:         1314

\*Dissolved oxygen values are in mg/L

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# LOUGEE POND

## BARNSTEAD



AQUATIC PLANTS  
11 JUL. 1986

A horizontal scale bar with a vertical tick at the left end labeled '0' and a vertical tick at the right end labeled '0.2 KM'. The bar is a solid black line.

AQUATIC PLANT SURVEY			
LAKE: LOUGEE POND		TOWN: BARNSTEAD	DATE: 07/11/86
Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
P	Pontederia cordata	Pickereelweed	Common
B	Brasenia schreberi	Water shield	Common
U	Utricularia	Bladderwort	Scattered
S	Sparganium	Bur reed	Common
Y	Nuphar	Yellow water lily	Common
N	Nymphaea	White water lily	Common
F	Nymphoides cordatum	Floating heart	Common
W	Potamogeton	Pondweed	Scattered
E	Eriocaulon septangulare	Pipewort	Scattered
T	Typha	Cattail	Scattered
OVERALL ABUNDANCE: Common			
<u>GENERAL OBSERVATIONS:</u> 1. Weeds were common along the shoreline but not a problem in the open water.			